



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,802	08/09/2006	Hironobu Teraoka	5173-0103PUS1	9726
2292 7590 05/29/2009 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER WHITE, DWAYNE J	
			ART UNIT 3745	PAPER NUMBER
			NOTIFICATION DATE 05/29/2009	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/588,802	<b>Applicant(s)</b> TERAOKA ET AL.	
	<b>Examiner</b> DWAYNE J. WHITE	<b>Art Unit</b> 3745	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 March 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 13-16 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 13-16 and 18-22 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

Applicant's amendment filed 12 March 2009 has been fully considered. Claims 1-9, 13-16 and 18-22 are pending. Applicant has amendment independent claims 1-7 to recite the limitation "the notches have a triangular shape, and an arcuate portion is formed in a bottom portion of each of the notches. Applicant goes on to argue that the prior art Sato and Shibata et al. do not disclose this new limitation and further that Shibata disclose trapezoid shape dentations with corner 13a. The Examiner respectfully disagrees with this assertion. The Examiner notes that Figure 7 of Shibata clearly shows a root 13b that makes up the triangular shape of the dentations with an arcuate portion formed at the bottom. Further, Figure 8 has two arcuate portions R2 at the bottom of the notches. In addition, Applicant's own notches could arguable to considered trapezoids by Applicant's definition of a trapezoid in the arguments. Therefore, the Examiner has maintained the rejection of the claims based on the previously cited prior art though modified to reflect the changes to the claims made by Applicant.

In regards to Applicant's amendment to claim 9, the objection to the claim as an improper multiple dependent has been maintained due to the claim being both dependent on claim 5 and claim 2 but not in the alternative. Claim 9 has not been further treated on the merits

### ***Claim Objections***

Claim 9 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim's dependency must be in the alternative. See MPEP § 608.01(n). Accordingly, the claim 9 not been further treated on the merits.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 13-16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (JP 141494 A) in view of Shibata et al. (US 2003/0175121 A1). Sato et al. discloses an impeller for blower comprising: a circular support plate 16 having a rotational axis; and a plurality of blades 19 provided on a peripheral edge portion of the support plate, extending in parallel to the rotational axis and having a predetermined blade angle, the impeller being characterized by: a plurality of notches 20 provided on an outer and inner edge of a pair of side edges of each of the blades (See Figure 10), and arranged at predetermined intervals along a longitudinal direction of the respective blades. The Examiner notes that figures 5, 7 and 10 shows that the notches can also be places on either the outer or inner side edges. Sato et al. does not disclose a plurality of smooth portions between a pair of notches, the specific dimensions of the notches, the positions of the notches on each impeller blade or that the notches are only provided on some of the plurality of blades.

Shibata et al. teaches the use of notches on the edges of blades to reduce noise generation. The notches of Shibata et al. have smooth portions 13a between each notch. Since both Sato et al. and Shibata et al. disclose the use of notches on blade edges to reduce noise generation, and it is clear that the notches of Shibata et al. function is the same way as the notches of Sato et al., it

Art Unit: 3745

would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the notches of Sato et al., with the teaches of Shibata et al., by providing smooth portions between each of the notches for the purpose of reducing noise generated by the blades.

Further, Since applicant has not disclosed that having the notches on select blades, having the specific dimension or positioned in a concentric circle solves any stated problem or is for any particular purpose above the fact that the notches reduce noise and it appears that the notches of Sato et al. as modified would perform equally well with having notches on select blades as claimed by applicant, it would have been an obvious matter of engineering design choice to apply notches to on select blades and having the positioning and dimensions for the purpose of reducing noise.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (JP 141494 A) in view of Shibata et al. (US 2003/0175121 A1) in further view of Takada et al. (JP 40116749 A). Sato et al. as modified by Shibata et al. discloses all of the claimed subject matter as stated in the above 35 U.S.C 103(a) rejection except for a plurality of projections being provided on the tongue portion and the guide portion of the casing that correspond with the respective notches on the outer edges of the blades.

Takada et al. teaches providing projections on the tongue portion of the casing for the purpose of reducing noise. Since Sato et al. as modified already discloses notches (and therefore, projections) on the impeller blades for the purpose of reducing noise and Takada et al. teaches the same principle of providing projections (and therefore notches) on the tongue portion for the same purpose, it would have been obvious at the time the invention was made to one of ordinary skill in the art o further modify the tongue and guide portions of Sato et al., with the teaches of

Art Unit: 3745

Takada et al., by providing projections as claimed for the purpose of reducing the noise generated by the impeller.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DWAYNE J. WHITE whose telephone number is (571)272-4825. The examiner can normally be reached on 7:00 am to 3:30 pm M-F.

Art Unit: 3745

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dwayne J White/  
Examiner, Art Unit 3745

DJW

/Edward K. Look/  
Supervisory Patent Examiner, Art Unit 3745